Dark Trading Volume and Market Quality: A natural Experiment
Ryan Farley, Eric Kelley and Andy Puckett

Discussion by Chaojun Wang
Wharton School, University of Pennsylvania

Mid-Atlantic Research Conference
March, 2018
Where do stocks trade?

Source: Tuttle (2014)
This Paper

- Dark venues do not display orders.
- Theory predicts that dark trading may improve or harm market quality.
- This paper studies the causal impact of dark trading on market quality, and shows that the effect is not significant.
- Instrument: Trade-at rule implemented in 2016 for a randomly selected set of small and mid-cap stocks.
The SEC implemented the Tick Size Pilot in October of 2016:

- Group 2: stocks must be quoted and traded at $0.05 increments.

- Group 3: same as G2, plus stocks are subject to the *trade-at provision*, which prohibits a venue from executing a trade at NBBO unless it is displaying that quote.
This paper measures dark trades as all trades executed on dark ATS plus internalized trades of broker-dealers.

These trades are coded ‘D’ in TAQ.

Heuristically, the trade-at rule should only affect dark venues. It should not impact brokers ability to internalize trades.
Upstairs Markets

- OTC trading of equities occur on “upstairs” markets.

- Institutional investors can trade over-the-counter with dealers.

- Upstairs markets execute 18% of share volume (worth $195 billion) in US exchange-listed stocks (Tuttle, 2014). Dark trading account for about one-third.

- FINRA publishes weekly data for OTC (non-ATS) trades.
Theory on Dark Pools

- Competition between trading venues, market segmentation, attraction for uninformed traders.

- Informed traders face greater execution risk on dark pools – they are attracted to lit venues. (Zhu 2014).

- Empirically, OTC trades are also less informative compared to trades on exchanges (Rose, 2014, Bessembinder and Venkataraman, 2004).
**Cream-skimming by OTC Dealers**

**Key Feature**  Price discrimination in OTC markets.

Empirically, dealers quote narrower spreads to traders who are likely to be uninformed (Linnainmaa and Saar, 2012, Lee and Chung, 2009). Trades execute at better prices over-the-counter than on exchanges (Smith, Turnbull, and White, 2001).
Cream-skimming by OTC Dealers

**Key Feature** Price discrimination in OTC markets.

Empirically,

- Dealers quote narrower spreads to traders who are likely to be uninformed (Linnainmaa and Saar, 2012, Lee and Chung, 2009)

- Trades execute at better prices over-the-counter than on exchanges (Smith, Turnbull, and White, 2001).
Spread versus Welfare

- Spread measures: \( QS = \frac{NBO_t - NBB_t}{mid_t} \), \( ES = 2 \frac{|price_t - mid_t|}{mid_t} \).

- Welfare = total gains from trade realized on all venues.

- Time necessary to execute a block trade.

- Conflict between waiting time and bid-ask spread (Choi and Huh(2017), Yu and Zheng (2017)). This paper controlled for TradeSize.

- Conflict between welfare and bid-ask spread (working paper with Tomy Lee).
Summary

Three suggestions:

▶ Does the trade-at rule affect internalized trades of broker-dealers?

▶ How about trades on upstairs markets?

▶ Can we quantify broader measures of market quality?